USER GUIDE

GALAXY NEXUS

GALAXY NEXUS

Android™ mobile technology platform 4.0
User's Guide

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Contents

Get started

Set up your phone

For instructions on using your phone's buttons, charger, battery, and other hardware features, check the printed Quick Reference Guide that came with your phone.

The first time you turn on the phone, you'll see a Welcome screen.

▶ To choose a different language, touch the menu.

▶ To set up your phone, touch Start and follow the instructions.

A series of screens takes you through the setup process. If you already have Gmail, use your Gmail address and password when asked. If you don't have Gmail or any other Google Account, go ahead and create one.

As you go through the setup screens, you have the option to skip some steps. To set up options you skipped, or for more information, see these topics:

Why use a Google Account?

Connect to mobile networks

Connect to Wi-Fi networks

Google+ Help

Add or remove accounts

Why use a Google Account?

A Google Account lets you organize and access your personal information from any computer or mobile device:

▶ **Never lose your contacts again**. When you sign in to your phone with a Google account, all the contacts you associate with that account in the People app are automatically backed up. As a result, they're always accessible through your Gmail account from any computer.

▶ **Synchronize and back up everything**. Whether you draft an email, add a contact's phone number, add an event to your calendar, or take a photo, your work gets backed up continuously by Google and synchronized with any computer where you use the same Google Account.

▶ **Access from anywhere**. Check your latest calendar, email, text messages, or social stream, wherever you are, no matter what computer or mobile device you're using.

▶ **Keep your stuff secure and available**. Google works round the clock to protect your personal data from unauthorized access and to ensure that you get it when you need it, wherever you need it.

▶ **Use other Google services**. Your Google Account also lets you take full advantage of any other Google apps and services that you may want to use, such as Gmail, Google Maps, Navigation, Android Market, YouTube, Google Talk, Messaging, and many more.

Related topic

Add or remove accounts

Get around

After you finish setting up your phone, Home opens.

At the bottom of the screen, you'll find three Navigation buttons. They're always available. No matter what you're doing with your phone, you can always get back to the main Home screen or return to previous screens:

Icon	Name	Description
⬅	Back	Opens the previous screen you were working in, even if it was in a different app. Once you back up to the Home screen, you can't go back any further in your history.
⌂	Home	Opens Home. If you're viewing a left or right Home screen, opens the central Home screen.
▭	Recent apps	Opens a list of thumbnail images of apps you've worked with recently. To open an app, touch it. To remove a thumbnail from the list, swipe it left or right.

After a short time without getting used, these buttons may shrink to dots or fade away, depending on the current app. To bring them back, touch their location.

Just above the Navigation buttons, notice the Favorites tray:

The app icons you keep in the tray remain visible on every Home screen.

The All Apps icon (::) in the center is permanent. Touch it to see all your apps and widgets.

The middle of your Home screen can hold app and widget icons, plus folders.

▶ To open an app, folder, or widget, touch its icon.

▶ To see additional Home screens, swipe your finger quickly left or right.

At the top of the screen, you'll see something like this:

Status icons on the left tell you which apps have sent you notifications; for example, that a message has arrived, or it's time for a meeting.

▶ To see your notifications, swipe your finger down from the top of the screen.

System icons on the right display the current wireless and network connection strength, battery level, time, and more.

Google Search, just below the status and system icons, lets you search the Internet. Touch **Google** to type your search terms, or 🎤 to speak them.

Related topics

Manage notifications

Arrange & work with apps

Touch & type

Use your fingers to manipulate icons, buttons, menus, the onscreen keyboard, and other items on the touchscreen. You can also change the screen's orientation.

To select or activate something, touch it.

To type something, such as a name, password, or search terms, just touch where you want to type. A keyboard pops up that lets you type into the field.

Other common gestures include:

▶ **Touch & hold**: Touch & hold an item on the screen by touching it and not lifting your finger until an action occurs.

▶ **Drag**: Touch & hold an item for a moment and then, without lifting your finger, move your finger on the screen until you reach the target position. For example, you can drag to reposition shortcuts on the Home screen.

▶ **Swipe or slide**: Quickly move your finger across the surface of the screen, without pausing when you first touch (so you don't drag something instead). For example, you can slide a Home screen left or right to view the other Home screens.

▶ **Double-tap**: Tap quickly twice on a webpage, map, or other screen to zoom. For example, double-tap a webpage in Browser to zoom in, and double-tap again to zoom out.

▶ **Pinch**: In some apps (such as Maps, Browser, and Gallery), you can zoom in and out by placing two fingers on the screen at once and pinching them together (to zoom out) or spreading them apart (to zoom in).

▶ **Rotate the screen**: On most screens, the orientation of the screen rotates with your device as you turn it. You can change this Display setting.

Related settings

Settings › Device › Sound

Settings › Device › Display

Related topic

Use the keyboard

Use the lock screen

To protect personal information, you can adjust your phone's lock settings:

1   From the Home or All Apps screen, touch the Settings icon ![settings icon].

2   Scroll down and touch **Security**.

3   Touch **Screen lock**.

4   Touch the type of lock you'd like to use.

After you set a lock here, a lock screen displays whenever your screen wakes up, requesting the pattern, PIN, or other specified key.

Important   Screen lock options are listed in the approximate order of the strength of their security, starting with None and Slide, which provide no security. Face Unlock and Pattern provide minimal security, although they can be more convenient than the stronger options.

If your phone's playing music when the screen locks, you can continue listening or pause the selection without unlocking.

While the screen is locked, you can respond to incoming calls in three ways. Touch the white phone icon and slide over one of these icons:

📞	Answer call	Start talking to the caller.
📞	Send to voicemail	Direct the caller to leave a voicemail message.
💬	Send a message	Opens a list of default text messages. Touch one to send it to the caller immediately.

Tip To edit text responses from within the Phone app, touch Menu icon ⋮ **> Settings > Quick responses**.

Related topic

Set screen lock

Search the web

Google Search can help you find anything you need on the web:

▶ At the top of any Home screen, touch **Google** to type your search term, or the Microphone button 🎤 to speak it.

As you type, suggestions from Google web search appear below the Search box, and results from your phone (such as apps and contacts) below that.

Touch a suggestion to search for it immediately, or touch its arrow just to add the term to the search field without starting to search.

To change the way Google searches on the web:

1 Touch **Google** at the top of the screen.

2 Touch the Menu icon ⁝ in the upper right corner of the screen.

3 Touch **Search settings**.

Tip In addition to speaking search terms, you can use Voice Actions to call your contacts, get directions, send messages, and perform a number of other common tasks by speaking.

Related topics

Refine Google Search

Use Voice Actions

Voice Action commands

Make yourself at home

Change the wallpaper

Wallpapers are images from Gallery (pictures you shot with Camera, synced from Picasa, and so on), still images included with the system, and live images (such as an animation or a map that centers on your location). They take the place of the default background for your Home screens.

1 Touch & hold anywhere on a Home screen that's not occupied.

   A list of options appears.

2 Touch a wallpaper source:

   Gallery. Choose from pictures that you've taken with Camera or downloaded to your device.

   Live Wallpapers. Choose from a scrolling list of animated wallpapers.

   Wallpapers. Choose from thumbnails of default images, or touch a thumbnail for a larger version.

   You can download additional wallpapers from Android Market.

3 To set a wallpaper, touch **OK** at the top of the screen (for Gallery images) or **Set wallpaper**.

Related settings

Settings > Device > Display > Wallpaper

Set ringtone & other sounds

Your phone uses sounds and vibrations to communicate with you, including ringtones, notifications, alarms, and navigation feedback. You can customize any of these sounds, as well as controlling their volume and the volume for music, videos, games, and other media.

Change default ringtone

To change the default ringtone for incoming calls:

1 From a Home or All Apps screen, touch the Settings icon ![icon].

2 Touch **Device > Sound > Phone ringtone**.

   Touch a ringtone to select and hear it. Touch OK to confirm your final selection.

   To adjust the ringtone for an individual caller, go to that person's contact card in the People app, touch Menu for that card , and then **Set ringtone**.

Set ringtone to Vibrate

You have several options for controlling when your phone vibrates. To turn Vibrate on or off easily for incoming calls, follow these steps:

▶ To activate Vibrate, press the Volume key (on the left side of your phone) down until you feel the phone vibrate. To resume normal ringing, press the Volume key up.

Change other Sound settings

To change other sounds and vibrations, go to **Settings > Device > Sound** and touch the one you want:

▶ **Volumes** sets the master volume separately for music, ringtones & notifications, and alarms. You can still use the physical volume control on the phone to raise or lower volume of whatever sound is currently playing.

▶ **Vibrate** controls vibration feedback across the entire phone.

▶ **Silent mode** turns off all sounds.

▶ **Default notification** announces the arrival of notifications unless you specify a different sound in an individual app.

▶ **System** settings control feedback sounds and vibrations for standard actions performed with your phone.

Make a phone call

1 Touch the Phone icon 📞 on the Home or All Apps screen.

If the Phone app opens to a list of numbers instead of the keypad, swipe left or touch the 📞 tab to return to the keypad.

2 Touch the keys to enter the number.

3 Touch 📞 below the keypad to dial.

You can switch applications during a call; for example, to look up information by using the Browser. The green phone icon appears in the Status bar while the call is underway.

To return to the Phone app while a call is in progress:

1 Swipe down from the top of the screen to reveal your notifications.

2 Touch the name of the person you're calling, beside the phone icon.

To end a call in progress, touch 📞 at the bottom of the screen.

Related topics

Dial stored numbers
Answer or divert calls

Get your contacts

If you have a Google Account, any contacts associated with that account are automatically backed up by Google. This means all your contacts are always available on the web and can be synced to any Android phone that's set up with the same account.

As a result, even if you lose your phone, switch to a new phone, or use a desktop computer, your contacts are always available.

To get your phone numbers and other contact information into your Google account, you have several options:

▶ Import your contacts directly into your phone from your SIM card. See the instructions below.

▶ Use a desktop computer to import both your email and your contacts from another email account into your Gmail account. See Import email and contacts.

▶ Use a desktop computer to export your contacts from applications like Outlook or the Mac Address Book as a text file, then import them into your Google Account through a desktop browser. Two common text file formats used for this purpose produce files that end with .csv or .vcard. See Importing CSV files or Importing vCard files.

▶ Use a desktop computer to export your contacts as a text file, then import them directly into your phone.

Regardless of the method, you only need to import your contacts once. After you start using a Google Account, all your contacts stay in sync, even if you get a new phone or other mobile device. To view your contacts:

- ▶ On your phone: use the People app ![People icon].

- ▶ From a browser on a desktop computer: Go to google.com/contacts. If you aren't already logged in, you need to provide your Gmail address and password.

To import contacts from a SIM card:

1. Install the SIM card with your contacts on it in your new phone.
2. From a Home or All Apps screen, open the People app ![People icon].
3. Touch Menu icon **⋮ > Import/Export**.
4. Touch **Import from SIM card**.

   If asked to choose an account, touch the one where you want to add the contacts.
5. To import contacts one at a time, touch them.

   To import all at once, touch Menu icon **⋮ > Import All**.

Related topic

Find People

Arrange & work with apps

To see all your apps, touch the All Apps icon ⊞ on any Home screen.

The main All Apps screen opens. This is where you can see all your apps, including those downloaded from Android Market. You can move app icons to any of your Home screens.

From All Apps, you can

▶ **Move between screens**: Swipe left or right.

▶ **Launch an app**: Touch its icon.

▶ **Place an app icon on a Home screen**: Touch & hold the app icon, slide your finger, and lift your finger to drop the icon in place.

▶ **Place an app icon in the Favorites tray**: Touch, hold, & slide to move one of the Favorites icons out of the tray. Then use the same technique to move another one into the same position.

▶ **Explore your widgets**: Touch the Widgets tab at the top of any All Apps screen.

▶ **Get more apps**. Touch the Market icon.

To remove an app icon from the Home screen, touch and hold it, slide your finger toward the top of the screen, and drop the app over the Remove icon 🗑 .

Note The All Apps icon ⊞ in the Favorites tray is permanent. You can't move it.

Use folders

You can combine several app icons in a folder. Drop one app icon over another on a Home screen, and the two icons will be combined.

From any Home screen, you can

▶ **Open a folder**: Touch it. The folder opens:

▶ **Rename a folder**: Touch its name.

▶ **Move icons around your Home screens**: Touch, hold, and slide.
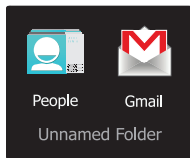
Tips

▶ To can see a smaller collection of frequently used apps, touch the Google Apps folder near the bottom of the screen. As with any folder, you can customize its contents.

▶ After you open an app, you can usually adjust its settings by choosing items from its Menu icon ⋮ near the top or bottom of the screen.

Related topic

Add widgets

Add widgets

Widgets are like windows into your apps. They're available from an All Apps tab for you to move onto your Home screens.

To see your widgets:

1 Touch the All Apps icon (⊞) on your Home screen.

2 Touch **Widgets** at the top of the screen.

From the main Widgets screen, you can

▶ **Move between screens**: Swipe left or right.

▶ **Drag a widget to a Home screen**: Touch and hold the widget's icon, slide your finger where you want to place it, and lift your finger.

You may be asked to make further choices before the widget activates. If there isn't room where you dropped it, the widget won't get added to the Home screen.

Related topic

Arrange & work with apps

Manage notifications

Notifications report the arrival of new messages, calendar events, and alarms, as well as ongoing events, such as when you've configured your phone as a Wi-Fi hotspot.

When you receive a notification, its icon appears in the top left corner of the screen. Depending on your Sound settings, you may also hear a sound.

▶ **See your notifications**: Swipe your finger down from the top of the screen.

▶ **Respond to a notification**: Touch it.

▶ **Dismiss a notification**: Swipe it sideways.

▶ **Dismiss all notifications**: Touch the X in the top right corner.

Tip When the list of notifications is open, you can also get to Settings by touching the Quick Settings icon ⚙ at the top of the list. This provides a quick way to get to Settings from any screen.

Most apps that send notifications, such as Gmail and Google Talk, have notification settings that you can adjust.

Related settings

Settings > Device > Sound

Try some apps

Start Gmail

You can use Gmail to read and write email from any mobile device or browser. All your email is always up to date and available no matter where you check it from.

But Gmail is not just about email. Your Gmail name and password signs you into to all Google apps and services, including Calendar; People, for keeping track of your contacts; Picasa, for storing and organizing your pictures; Google Reader, for keeping up with your online reading; Google Documents, for working with documents, spreadsheets, or drawings; and many more.

▶ To launch Gmail, touch the Gmail icon on a Home or All Apps screen.

The first time you launch Gmail, you're asked to sign in or create an account, if you didn't already do so when you first set up your device. Then Gmail opens to the Inbox. From here, you can

▶ **Read email**. Touch a message to read it. Unread messages are bold.

While you're reading a message:

● Touch the icons and menu along the bottom of the screen to archive, throw away, label, or perform other actions on that message.

● Swipe left or right to read the previous or next conversation.

- ▶ **Organize email**. Check the box beside a message to select it. Then use the icons and menu along the bottom of the screen to manage the selected messages.

- ▶ **Change your settings**. Touch the Menu icon ⁞ to change your preferences, add an account, or get Help.

No matter where you are within Gmail, you can always get back to the Inbox by touching ⟨M⟩ in the top left corner of the screen.

Related topic

Why use a Google Account?

Find People

The People app gives you quick and easy access to everyone you want to reach. When you first turn on your phone and sign into a Google Account, any existing contacts from that account are synced with your People app. After that, all your contacts stay in sync automatically, whether you make changes on your phone, from another device, or from any Web browser.

If you belong to Google+ or use Exchange, you can also sync that contact information with People.

All your People information is available from Gmail, Google Talk, Messenger, Phone, and other apps where it's useful. As you add contacts from different sources, they are synced automatically across all the places you need them.

▶ To view your contacts, touch the People icon 🔲 on a Home or All Apps screen.

The first time you launch People, you're asked to sign in or create an account. Then the app opens to the main list of your contacts. You can view them in three ways from the tabs at the top of the screen: Groups 👥 , All 👤 , and Favorites ⭐ :

▶ Swipe your finger left or right to move between tabs, and up or down to scroll through the lists.

From any of the main views, you can

▶ **See who's available**. Contacts who are currently online and accessible via Google Talk or other networks are labeled Available and marked with a green dot ● .

▶ **Read details**. Touch a name to see details for a contact or group.

▶ **View recent activity**. When viewing a contact, swipe right or touch a connection profile, such as Google+, to see recent updates.

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▶ **Edit details**. While viewing a contact, touch the Menu icon ⋮ and choose options to edit or share contact details, set ringtone, and so on. You can also touch the star beside the Menu icon to add a contact to your Favorites list.

▶ **Change your setting**s. While viewing the main list screen, touch the Menu icon ⋮ to import or export contacts, choose display options for the Groups and All tabs, and add or edit accounts.

No matter where you are within People, you can always get back to the main lists by touching the icon in the top left corner of the screen.

Related topics

Why use a Google Account?

Manage your Calendar

The Calendar app lets you view and edit your schedule.

When you first set up your phone, you configured it to use an existing Google Account (such as Gmail), or you created a new one. The first time you open the Calendar application on your phone, it displays any existing calendar events from that Google Account on the web. As you edit events from any mobile device or web browser, they are synced automatically across all the places you need them.

To view your Calendar, touch on a Home or App screen.

To change the Calendar view, touch the date at the top and choose **Day**, **Week**, **Month**, or **Agenda**. Swipe to scroll vertically or horizontally. In the Day or Week views, spread your fingers apart or pinch them together to zoom in or out.

From any of these views, you can

▶ **Read or edit event details**. Touch an event to view its details.

▶ **Manage events and calendars**. Touch icons across the top or Menu to search or create events, return to today, or adjust settings.

Related topics

Why use a Google Account?

Use your Camera

The Camera app is a combination camera and camcorder that actually consists of two cameras, one facing back (toward you) and one facing forward (away from you). The forward-facing camera includes a Panorama mode that allows you to create a single image by panning across a scene.

You can view photos and videos you take with Camera in the Gallery app . Your personal videos are also available in the Videos app , along with movies that you rent or download.

To take pictures and videos, first touch the Camera icon on a Home or All Apps screen.

When Camera opens, you can

▶ **Take a picture**: Touch the blue button.

▶ **View the most recently taken picture**: Touch the thumbnail near the blue button.

You can now share the picture by touching the Gmail, Google+, Messenger, or other icons displayed along one side of the image.

To view this picture and others in the Gallery app, touch the picture.

While Camera is open, you can also touch these icons to adjust its settings:

Icon	Name	Description
	Mode	Switch among camera, video, and panorama modes.
	Switch Camera	Toggles between cameras on the front and back of the phone.
	Zoom	Touch & hold, then slide to zoom in and out.
	Settings	Reveals additional icons that you can use to set exposure, flash, focus, scene mode, white balance and other settings.

Beam screen content

You can beam a web page, a video, or other content from your screen to another device by bringing the devices together (typically back to back).

Before you begin: Make sure both devices are unlocked, support Near Field Communication (NFC), and have both NFC and Android Beam^{TM} turned on.

Follow these steps:

1 Open a screen that contains something you'd like to share, such as a Browser page, YouTube video, or place page in Maps.

2 Move the back of your phone toward the back of the other device.

3 When the devices connect, you hear a sound, the image on your screen reduces in size, and you see the message **Touch to beam**.

4 Touch your screen anywhere.

Your friend's device displays the transferred content. Or, if the necessary app isn't installed, Android Market^{TM} opens to a screen where your friend can download the app.

Related settings

Settings > Wireless & networks > More > NFC

Settings > Wireless & networks > More > Android Beam

Manage downloads

Files, apps, and other items you download from Gmail, Email, Android Market, or in other ways are stored in your device's internal storage. You can use the Downloads app to view, reopen, or delete what you've downloaded.

Some mobile networks restrict the size of the files you can download, to manage the demands on their networks or to help you avoid unexpected charges. When you try to download an oversized-file when connected to such networks, you may be required to delay downloading until your device is connected to a Wi-Fi™ network, when the download will resume automatically. You can view and manage these queued files in the Downloads app as well.

Downloaded files are stored in the Download directory that's visible when your device is connected to a computer. You can view and copy files from this directory.

Open Downloads and manage downloaded files

- Touch the Downloads icon 🔽 from a Home or All Apps screen.
- Touch an item to open it.
- Touch headings for earlier downloads to view them.
- Check items you want to share. Then touch the Share icon ◁ and choose a sharing method from the list.
- Check items you want to delete. Then touch the Trash icon 🗑 .
- At the bottom of the screen, touch **Sort by size** or **Sort by date** to switch back and forth.

Tune performance

Optimize battery life

You can extend your battery's life between charges by turning off features that you don't need. You can also monitor how apps and system resources consume battery power.

To adjust the settings described here, first touch the Settings icon on a Home or All Apps screen.

Extend the life of your battery

- If you aren't using Wi-Fi, Bluetooth, or GPS, use the Settings app to turn them off. The GPS setting is located in **Settings > Personal > Location services**.

- Don't leave the Maps or Navigation apps open on the screen when you're not using them. They use GPS (and thus more power) only when they're running.

- Turn down screen brightness and set a shorter Sleep timeout: **Settings > Device > Display.**

- If you don't need it, turn off automatic syncing for all apps: **Settings > Personal > Accounts & sync**. Note that this means you need to sync manually to collect messages, email, and other recent information, and won't receive notifications when updates occur.

- If you know you won't be near a mobile or Wi-Fi network for a while, switch to Airplane mode:
  Press and hold the power switch until the Phone options dialog appears. Then touch **Airplane Mode**.

Check battery level and usage details

● Open **Settings > Device > Battery**.

The list at the bottom of the screen shows the breakdown of battery usage for individual apps and services. Touch a graph for more details. The details screen for some apps includes buttons that allow you to adjust settings affecting power usage, or stop the app completely.

Warning! If you stop some apps or services, your device may not work correctly.

Battery status (charging, discharging) and level (as a percentage of fully charged) are displayed at the top of the screen.

The discharge graph shows battery level over time since you last charged the device, and how long you've been running on battery power.

Optimize data usage

Data usage refers to the amount of data uploaded or downloaded by your device during a given period. Depending on the device and your wireless plan, you may be charged additional fees when your data usage exceeds your plan's limit.

To monitor your data usage, adjust your data usage settings. First check your plan and determine what data limits may apply.

Warning! The usage displayed on the data usage settings screen is measured by your phone. Your carrier's data usage accounting may differ. Usage in excess of your carrier plan's data limits can result in steep overage charges. The feature described here can help you track your usage, but is not guaranteed to prevent additional charges.

Data usage settings allow you to:

- Set the data usage level at which you'll receive a warning.
- Set a data usage limit.
- View or restrict data usage by app.

To adjust the settings described here:

1   Touch the Settings icon on a Home or All Apps screen.

2   Touch **Wireless & networks > Data usage**.

By default, you see the settings for mobile data: that is, the data
network or networks provided by your carrier:

It's possible to show Wi-Fi data usage settings in a separate tab. To do so,
touch the Menu icon , then **Show W-Fi usage**.

Near the top of the screen, note the on-off switch for mobile data. The
instructions that follow assume that this switch is turned on. If it's off,
you won't be able to use mobile data at all and many features of your
phone and apps won't work correctly.

Just below the on-off switch, note the data usage cycle. Touch it to
choose a different cycle. This date range is the period of time for which
the graph displays data usage.

The vertical white lines on the graph show a period of time within the
data usage cycle. This range determines the usage amount displayed
just below the graph. Drag lines to change the period.

Set data usage warning

▶   Drag the orange line by its right side to the level where you want to receive a warning.

When your data usage reaches this level, you'll receive a notification.
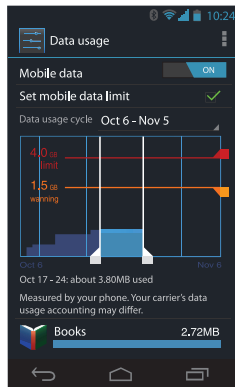
Set data usage limit

1 Check **Set mobile data limit**.

A dialog appears that describes the limit you're setting.

2 Read the message. If you're willing to proceed, click **OK**.

The red line at the top of the graph activates, so you can drag it up or down.

3 Drag the red line by its right side to the limit you want to set.

When your data usage reaches the limit, mobile data will be turned off automatically and many features of your phone won't work correctly. You'll receive a notification when this occurs.

Important The usage displayed on the data usage settings screen is measured by your phone. Your carrier's data usage accounting may differ. Usage in excess of your carrier plan's data limits can result in steep overage charges. The feature described here can help you track your usage, but is not guaranteed to prevent additional charges. For best results, set a conservative limit.

View or restrict data usage by app

Some apps transfer data in the background; that is, when you're not actually using the app, it may download data for future reference. Restricting background data usage for individual apps can sometimes be a useful way to reduce your overall data usage. However, this is a drastic measure that may also affect the app's performance or cause it to malfunction. Check whether data usage can be restricted from the app's own settings (available from within the app) before restricting it here.

1   Make sure you're viewing the network for which you want to view or restrict app data usage. If more than one is displayed, you can switch between them by touching tabs at the top of the screen.

2   Scroll down to find the app whose data usage you want to view.

   The blue bar for each app indicates its total data usage for the cycle displayed above the main graph, near the top of the screen.

3   To see more details for an app, touch its name.

   The main graph switches to show just this app's data usage for the specified cycle. Below the main graph, a pie chart breaks out foreground versus background data usage for this app.

4   To stop background data usage for this app, check **Restrict background data**.

5   Read the message that appears. If you're willing to proceed, click **OK**.

Advanced data usage settings

Two other settings available from the Menu icon ⁝ can have dramatic effects, but may sometimes be useful:

● **Data roaming** can result in steep additional charges. However, in some locations this may be the only way to connect to the Internet.

● **Restrict background data** affects all your apps across all available networks, and may cause some features to stop working. This is an extreme step that should be used with caution.

Optimize memory usage

You typically don't need to worry about managing apps beyond installing, opening, and using them. But there may be times when you want to know more about what's happening behind the scenes.

Apps use two kinds of memory: internal storage and RAM. They use internal storage for themselves and any files, settings, and other data they use. They also use RAM (memory designed for temporary storage and fast access) when they're running.

Android manages and carefully guards the portion of internal storage where the system, apps, and most data for those apps are stored, because this area may contain your private information. It's not possible to view this portion of internal storage when you connect your device to a computer with a USB cable. The other portion of internal storage, where music, downloaded files, and so on are stored, remains visible for your convenience.

Android also manages how apps use RAM. It may cache some things you've been using recently, for quicker access if you need them again, but it will erase the cache if it needs the RAM for new activities.

You affect the way apps use internal storage directly and indirectly in many ways; for example, by:

- Installing or uninstalling apps.
- Downloading files in Browser, Gmail, and other apps.
- Creating files (for example, by taking pictures).
- Deleting downloaded files or files you created.
- Copying files between your device and a computer via USB or Bluetooth.

You rarely need to manage the way apps use RAM. But you can monitor apps' RAM usage and stop them if they misbehave.

Use the Apps screen

The Apps screen allows you to adjust several aspects of the way your device uses memory. To view these settings:

1   From a Home or All Apps screen, touch the Settings icon ![settings icon].

2   Under Device, touch **Apps**.

You'll see three tabs at the top of the screen, each displaying a list of apps or their components:

● **Downloaded**. Displays apps you've downloaded from Market or other sources.

● **Running**. Displays all apps, processes, and services that are currently running or that have cached processes, and how much RAM they are using.

   The graph at the bottom of the Running tab shows the total RAM in use and the amount free. Below the graph, touch **Show cached processes** or **Show running services** to switch back and forth.

● **All**. Displays all apps that came with Android and all apps you downloaded from Android Market or other sources.

To switch the order of the lists displayed in the **Downloaded** or **All** tabs, touch Menu icon ![menu icon] **> Sort by name** or **Sort by size**.

To view details about an app or other item listed under any tab, touch its name. The information and controls available vary among different types of apps, but commonly include:

- **Force stop button**: Stops an app that is misbehaving. Stopping an app, process, or service may cause your device to stop working correctly. You may need to restart your device after doing this.

- **Uninstall button**: Deletes the app and all of its data and settings.

- **Disable button**: Prevents the app from running, but does not uninstall it. This option is available for some apps and services that can't be uninstalled.

- **Clear data button**: Delete an app's settings and other data without removing the app itself.

- **Clear cache**: If the app stores data in a temporary area of the tablet's memory, lists how much information is stored, and includes a button for clearing it.

- **Launch by default**: If you have configured an app to launch certain file types by default, you can clear that setting here.

- **Permissions**: Lists the kinds of information about your tablet and data the app has access to.

Learn the Phone app

Dial stored numbers

You can place calls from the Phone app 📞 , the People app 👥 , or other apps or widgets that display contact information. Wherever you see a phone number, you can usually touch it to dial.

To dial using the Phone app:

- Touch the Phone icon 📞 on a Home or All Apps screen.
  Notice the three tabs at the top of the phone. You can make calls from any of them.

- The Dialer tab 📞 lets you dial manually. Touch the keys to enter the number, then touch the Phone icon 📞 below the keypad to dial.

  If you enter a wrong number, touch ⌫ to erase digits one by one.

  To see numbers for all your contacts, touch 👤 . You can also search your contacts from here.

  To dial an international number, touch & hold the 0 key to enter the plus (+) symbol. Then enter the international prefix for the country, followed by the full phone number.

- The Call log tab 🕐 shows recent calls. Touch a call to return it.

- The Favorites tab ⭐ shows the numbers you usually call. Touch to dial.

You can switch applications during a call; for example, to look up information by using the Browser. The green phone icon appears in the Status bar while the call is underway.

To return to the Phone app while a call is in progress:

1   Swipe down from the top of the screen to reveal your notifications.

2   Touch the green phone icon.

To end a call in progress, touch the End Call icon at the bottom of the screen.

Related topics

Dial by voice
Options during a call

Answer or divert calls

When you receive a phone call, the Incoming Call screen opens, displaying the caller ID and any additional information about the caller that you've entered in People.

All incoming calls are recorded in the Phone app's Call log tab. If you miss a call, you receive a notification.

To silence the ringer before answering the call, press the Volume Down button on the side of your phone.

When a call arrives, touch the white phone icon and slide over one of these icons:

	Answer call	Start talking to the caller.
	Send to voicemail	Direct the caller to leave a voicemail message.
	Send a message	Opens a list of default text messages. Touch one to send it to the caller immediately.

Tip To edit text responses from within the Phone app, touch Menu icon ▊ > **Settings** > **Quick responses**.

Related topic

Set ringtone & other sounds

Work with the Call log

The Call log is a list of all the calls you've placed, received, or missed. It provides a convenient way to redial a number, return a call, or add a number to your Contacts.

Within the Phone app 📞 , the Call log is under the middle tab 🕐 . Touch a number for more information about the call, or touch the phone icon 📞 beside it to call back.

Arrow icons beside a call indicate the type of call. Multiple arrows indicate multiple calls:

- ↙ Missed incoming call
- ↙ Received incoming call
- ↗ Outgoing call

While viewing details for a call:

- Touch the number to call it.
- Touch 📧 to send a text message.
- Touch 👤 to view contact details.
- Touch 👤₊ to add a new People card for the caller.

To clear the Call log:

1 Touch the Menu icon ⋮.
2 Touch **Clear Call Log**.

Place an Internet (SIP) call

You can place calls over the Internet when connected to a Wi-Fi network, rather than over your mobile network. To do so, you must first configure your phone to use an Internet calling account.

After you set up the account, placing an Internet call is no different than placing any other call. However, you must be connected to a Wi-Fi network. When you're making an Internet call, the phone displays Internet Call near the top of the screen.

Internet calling is based on the Session Initiation Protocol (SIP) for voice calls on Internet Protocol (IP) networks.

Important Calling a phone number over the Internet requires that your service provider supports it. You may incur additional charges. Check with your service provider for details.

To add an Internet calling account and configure your incoming and outgoing preferences:

1 Touch the Phone icon 📞 on a Home or All Apps screen.

2 Touch the Menu icon ⋮.

3 Touch **Call settings**.

4 At the bottom of the screen, under Internet call settings:

To change your incoming call preference or account settings, touch **Accounts**.

To change your outgoing call preferences, touch **Use Internet calling**.

You'll also want to add SIP addresses for the contacts you want to call this way. To do so:

1　Touch the contact's info in the Call log tab 🕐.
2　Touch ● to go to the contact's card.
3　Touch the Menu icon ⋮, then **Edit**.
4　Scroll to the bottom of the screen, touch **Add another field**, and then **Internet call**.
5　Touch the **Internet call** field and type the number.

Listen to your voicemail

When you have a new voicemail message, the voicemail icon ⚬⚬ appears in the Status area at the top left of your screen.

To read your voicemail:

1   Swipe down from the top of the screen to view your notifications.

    The voicemail notification displays the number of unread messages and a number to dial.

2   Touch **New voicemail**.

    Your phone dials the voicemail message. Follow the instructions to retrieve your messages.

To change your voicemail service or other settings:

1   Touch the Phone icon 📞 on a Home or All Apps screen.

2   Touch Menu ⋮, then **Settings**.

3   Touch the voicemail setting you want to change.

Dial by voice

To place a phone call by speaking, use the Voice Dialer app ⬚.

If you have a BlueTooth headset that supports voice dialing, it may work with Voice Dialer. For details, see the documentation that came with your headset.

To make a phone call with Voice Dialer:

1   Touch the Voice Dialer icon ⬚ on a Home or All Apps screen.

    The Voice Dialer opens, listening for your spoken instructions, and displaying some hints for how to use it.

2   Say "Call" followed by the name of the contact to call.

    Or follow one of the other Voice Dialer suggestions:

Options during a call

During a call, you can

● Answer another incoming call: You see the Incoming Call screen, displaying the caller ID and any additional information about the caller that you've entered in People. As with any incoming call, touch the white phone icon and slide to answer, respond with a text message, or send the call to voicemail.

If you answer, the first call will be put on hold. If you respond with a message or send to voicemail, you return to the first call.

● Adjust the volume: Use the volume buttons on the side of the phone.

During a call, you can also use buttons near the bottom of the screen to

● ⠿ Switch to the dialer, for example to enter a code.

● ◀)) Controls the audio output as follows:

If a Bluetooth headset is not connected: Turns the speakerphone on or off.

If a Bluetooth headset is connected: Functions as a 3-way switch between the built-in earpiece, the speakerphone, and the headset. The icon changes to indicate the current output. Touch & hold to see a 3-way menu.

If a wired headset is plugged into the phone, it replaces the phone's built-in earpiece.

- Mute your microphone.
- Put the other party on hold.
- Switch to another call in progress.
- Make another call separately from the first call, which is put on hold.
- Merge separate calls as a single conference call.

Enter & edit text

Use the keyboard

You can enter text using the onscreen keyboard. Some apps open it automatically. In others, you open it by touching where you want to type.
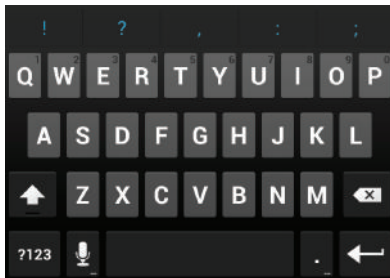
As you type, the keyboard displays suggestions above the top row of keys. To accept a suggestion, touch it.

Basic editing

- **Move the insertion point**: Touch where you want to type.

  The cursor blinks in the new position, and a green tab appears below it. Drag the tab to move the cursor.

- **Select text**: Touch & hold or double-tap within the text.

  The nearest word highlights, with a tab at each end of the selection. Drag the tabs to change the selection.

  The tab disappears after a few moments, to get out of your way. To make it reappear, touch the text again.

- **Delete text**: Touch to delete selected text or the characters before the cursor.

- **Cut, copy, paste**: Select the text you want to manipulate. Then touch the Paste 📋 , Cut ✂ , or Copy 📋 button:
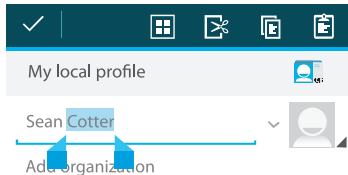
To make the keyboard go away, touch **Done**.

Tips & shortcuts

● **Type capital letters**: Touch the Shift key ⇧ once to switch to capital letters for one letter.

 Or touch & hold the Shift key ⇧ while you type. When you release the key, the lowercase letters reappear.

● **Turn caps lock on**: Double-tap or touch & hold the Shift key ⇧, so it changes to ⬆. Touch the Shift key ⬆ again to return to lowercase.

● **Show numbers or symbols**: Touch the **?123** key. To see more choices, touch the **= \ <** key.

● **Quickly access common punctuation and symbols**: Touch & hold the key to the right of the space bar (period key).

● **Type special characters**: Touch & hold the Shift key ⇧ while you touch a key with a small gray character in its corner to enter the gray character.

 Touch & hold any key to see alternative letters, symbols, or numbers, which you can then touch to type.

● **Change input language or keyboard**: Touch & hold the key to the left of the space bar (with ... in the lower-right corner), and then release it.

 The Input options menu appears. Choose the option you want to adjust.

Related settings

Settings > Personal > Language & input

Type text by speaking

You can use voice input to type text by speaking. This feature uses Google's speech-recognition service, so you must have a data connection on a mobile or Wi-Fi network to use it.

Text that you enter by speaking is underlined. You can continue entering text to keep it, or delete it.

You can speak to enter text in most places that you can enter text with the onscreen keyboard.

1   Touch a text field, or a location in text you've already entered in a text field.
2   Touch the Microphone key 🎤 on the onscreen keyboard.
3   When you see the microphone image, speak what you want to type.

Say "comma", "period", "question mark", "exclamation mark" or "exclamation point" to enter punctuation.

When you pause, what you spoke is transcribed by the speech-recognition service and entered in the text field, underlined. You can touch the Delete

key to erase the underlined text. If you start typing or entering more text by speaking, the underline disappears.

Related settings

Settings > Personal > Language & input

Connect to networks & devices

Connect to mobile networks

Depending on your carrier and service plan, your phone may connect automatically to your carrier's fastest available data network. Or you may need to insert a SIM card or configure details for a specific carrier. For details, read the instructions that came with your phone.

Your mobile network settings allow you to adjust several aspects of aspects of the way your phone uses mobile data. To view these settings:

1 Touch the Settings icon on a Home or All Apps screen.

2 Under Wireless & Networks, touch **More**, then **Mobile networks**.

Mobile network settings

Note that you can't adjust mobile network settings when Airplane mode is selected. The settings available may vary depending on your device and plan.

● **Data enabled**. Check to turn data access on for all available mobile networks.

● Before turning this option off, which may cause your device or apps to stop functioning correctly, consider using the mobile data limits available under **Settings > Wireless & networks > Data usage**.

● **Data roaming**. Prevents your device from transmitting data over other carriers' networks when you leave an area that is covered by your own carrier's networks. This is one way to to control expenses if your mobile data contract doesn't include data roaming.

With **Data roaming** unchecked, you can still transmit data over Wi-Fi.

● **Network mode**. Allows you to choose between using both LTE and CDMA, or just CDMA.

● **System select**. Allows you to determine when roaming can occur over a CDMA network. With Home selected, you are restricted to your carrier's network for both voice and data.

Related settings

Settings > Wireless & networks > Data usage

Settings > Wireless & networks > More > Airplane mode

Connect to Wi-Fi networks

Wi-Fi is a wireless networking technology that can provide Internet access at distances of up to 100 meters, depending on the Wi-Fi router and your surroundings.

To use Wi-Fi, you connect to a wireless access point, or "hotspot." Some hotspots are open and you can simply connect to them. Others implement security features that require other steps to set up, such as digital certificates or other ways to ensure that only authorized users can connect.

To extend the life of your battery between charges, turn off Wi-Fi when you're not using it. You can also set your device to disconnect automatically from Wi-Fi networks when it's sleeping.

Turn Wi-Fi on and connect to a Wi-Fi network

If you're adding a Wi-Fi network when first setting up your device, Wi-Fi is turned on automatically.

1 Touch the Settings icon ![icon] on a Home or All Apps screen.
2 Touch **Wireless & networks > Wi-Fi**.
3 Slide the Wi-Fi switch to the **On** position.

The device scans for available Wi-Fi networks and displays the names of those it finds. Secured networks are indicated with a Lock icon. If the device finds a network that you connected to previously, it connects to it.

4 Touch a network name to see more details or connect to it.

If the network is secured, you're prompted to enter a password or other credentials. (Ask your network administrator for details.)

To modify a network's settings, touch & hold the network name.

Add a Wi-Fi network

You can add a Wi-Fi network so your device will remember it, along with any security credentials, and connect to it automatically when it's in range. You must also add a Wi-Fi network if the network does not broadcast its name (SSID), or to add a Wi-Fi network when you are out of range.

To join a secured network, you first need to learn security details from the network's administrator.

1 Turn on Wi-Fi, if it's not already on.

2 In the Wi-Fi settings screen, touch **Add Network**.

3 Enter the SSID (name) of the network. If necessary, enter security or other network configuration details.

4 Touch **Save**.

The information about the network is saved. Your device will connect to this network automatically the next time you come within range.

Forget a Wi-Fi network

You can make the device forget about the details of a Wi-Fi network that you added; for example, if you don't want the tablet to connect to it automatically or if it's a network that you no longer use.

1 Turn on Wi-Fi, if it's not already on.

2 In the Wi-Fi settings screen, touch the name of the network.

3 Touch **Forget** in the dialog that opens.

Configure proxy settings for a Wi-Fi network

Some network administrators require you to connect to internal or external network resources via a proxy server. By default, the Wi-Fi networks you add are not configured to connect via a proxy, but you can change that for each Wi-Fi network you've added.

Proxy settings are used by Browser but may not be used by other apps.

1   Touch & hold a network in the list of Wi-Fi networks you've added.
2   Touch **Modify network** in the dialog that opens.
3   Select **Show advanced option**s.
4   If the network has no proxy settings, touch **None** under Proxy Settings, then touch **Manual** in the menu that opens.
5   Enter the proxy settings supplied by your network administrator.
6   Touch **Save**.

The proxy settings apply only to the Wi-Fi network you modified. To change the proxy settings for other Wi-Fi networks, modify them individually.

Set Wi-Fi notifications, disconnect policy, and other advanced options

To work with advanced Wi-Fi settings:

1 Turn on Wi-Fi, if it's not already on.

2 In the Wi-Fi settings screen, touch the Menu icon ⋮ and choose **Advanced**.

These are the settings you can adjust:

● **Network notification**: By default, when Wi-Fi is on, you receive notifications in the Status bar when your device detects an open Wi-Fi network. Uncheck this option to turn off notifications

● **Avoid poor connections**: Check to automatically avoid using networks with a low-quality or inter- mittent Internet connection.

● **Keep Wi-Fi during sleep**: To conserve mobile data usage, your device stays connected to Wi-Fi when the screen goes to sleep.

  Touch this option to change this default behavior: either to stay connected to Wi-Fi only when the device is connected to a charger (when battery life isn't a problem), or never to stay connected to Wi-Fi during sleep. The latter choice is likely to increase mobile data usage. You may want to revisit this setting if you receive a notification that you're approaching your specified mobile data limit.

● **Wi-Fi frequency band**: Specify Automatic, 5 GHz, or 2.4 GHz frequency bands

This screen also displays the following information:

- **MAC address**: The Media Access Control (MAC) address of your device when connected to a Wi-Fi network.
- **IP address**: The Internet Protocol (IP) address assigned to the device by the Wi-Fi network you are connected to (unless you used the IP settings to assign it a static IP address).

Related settings

Settings > Wireless & networks > Wi-Fi

Settings > Wireless & networks > Data usage

Connect to Bluetooth devices

Bluetooth is a short-range wireless communications technology used to communicate between devices over a distance of about 8 meters. The most common Bluetooth devices are headsets for making calls or listening to music, hands-free kits for cars, and other portable devices, including laptops.

There are several Bluetooth profiles that define the features and communications standards for Bluetooth devices. For a list of the profiles supported by your device, read the owner's guide.

To connect to a Bluetooth device, you must turn on your phone's Bluetooth radio. The first time you use a new Bluetooth device, you must "pair" it with, so that both devices know how to connect securely to each other. After that, they connect automatically.

To extend the life of your battery between charges, turn off Bluetooth when you're not using it. You may also be required to turn Bluetooth off in some locations. Bluetooth is turned off when you switch to Airplane mode.

System bar icons indicate Bluetooth status.

Turn Bluetooth on or off

1   Touch the Settings icon on a Home or All Apps screen.
2   Touch **Wireless & networks**.
3   Slide the Bluetooth switch on or off.

Change your phone's Bluetooth name

Your phone has a generic Bluetooth name by default, which is visible to other Bluetooth devices when you connect them. You can change the name so that it is more recognizable.

1 Under **Settings > Wireless & networks**, make sure Bluetooth is turned on.

2 Touch **Bluetooth**.

3 In the Bluetooth screen, touch the Menu icon ⋮ and choose **Rename phone**.

4 Type a new name and touch **Rename**.

Pair your phone with a Bluetooth device

You must pair your phone with a device before you can connect to it. Once you pair your phone with a device, they stay paired unless you unpair them.

1 Under **Settings > Wireless & networks**, make sure Bluetooth is turned on.
2 Touch **Bluetooth**. Your phone scans for and displays the IDs of all available Bluetooth devices in range.

If the device you want to pair with isn't in the list, ensure that the it's turned on and set to be discoverable. See the documentation that came with your device to learn how to make it discoverable.

3 If your mobile device stops scanning before your Bluetooth device is ready, touch **Search for devices**.
4 Touch the ID of the Bluetooth device in the list to pair with it.

Follow the instructions to complete the pairing. If you're prompted to enter a passcode, try entering 0000 or 1234 (the most common passcodes), or consult the documentation that came with the device.

If the pairing is successful, your phone connects to the device.

Connect to a Bluetooth device

Once you've paired with a Bluetooth device, you can connect to it manually; for example, to switch devices or to reconnect after it is back in range.

1 Under Settings > Wireless & networks, make sure Bluetooth is turned on.

2 In the list of devices, touch a paired but unconnected device.

When the phone and the device are connected, the device is displayed as connected in the list.

Configure or unpair a Bluetooth device

Some Bluetooth devices have multiple profiles. Profiles can include the ability to transmit your conversations, play music in stereo, or transfer files or other data. You can select which profiles you want to use with your phone. You can also change the name of the Bluetooth device as it appears on your phone.

1 Under **Settings > Wireless & networks**, make sure Bluetooth is turned on.

2 In the Bluetooth settings, touch the Quick Settings icon ⛭ beside the connected Bluetooth device you want to configure.

A screen opens that allows you to change the device's name, unpair it, or select profiles. touch the Back button when you're finished.

Obtain a network connection via Bluetooth tethering

If you have a computer or other device that can share its network connection via Bluetooth, you can configure your phone to obtain a network connection by Bluetooth tethering (sometimes called reverse tethering).

1 Configure your computer to share it's network connection via Bluetooth. See your computer's documentation for details on how to do this. Typically, it involves making your computer discoverable via Bluetooth and allowing incoming PAN connections.

2 Pair and connect your phone to your computer via Bluetooth.

3 Go to **Settings > WIreless & networks > More > Tethering & portable hotspot**.

4 Check **Bluetooth tethering**.

Your phone connects to the Internet via Bluetooth and your computer, and a Bluetooth icon appears in the System bar.

Related settings

Settings › Wireless & networks › Bluetooth

Settings › Wireless & networks › More › Tethering & portable hotspot

Connect to keyboards, mice, and other devices

You can connect a keyboard, mouse, or even a joystick or other input device to your phone via USB or Bluetooth and use it just as you would with a PC.

You may need an adapter to connect the keyboard or other device to your phone's USB port. To connect more than one USB device at a time, use a powered USB hub to reduce the drain on your phone's battery.

You pair and connect Bluetooth input devices to your phone in the same way as any other Bluetooth device.

Keyboards

In addition to entering text, you can use your keyboard to navigate your phone's features:

● Use the arrow keys to select items on screen.

● Pressing Return when an item is selected is equivalent to touching that item.

● Pressing Escape is equivalent to touching Back.

● Press Tab or Shift-Tab to move from field to field in a form or other screen with multiple text fields.

Mice

When you connect a mouse to your phone and move the mouse, an arrow-shaped cursor appears, just as on a computer:

● Use the mouse to move the cursor.

● Clicking, pressing, and dragging with the mouse button is equivalent to touching, touching & holding, and dragging with your finger.

● Only one mouse button is supported.

● If your mouse has a trackball or scroll wheel, you can use it to scroll both vertically and horizontally.

Other input devices

You can connect joysticks, gamepads, and other input devices to your phone. If they work without special drivers or adapters on your PC, they will likely work with your phone. However, games and other apps must be designed to support any special features of an input device, such as dedicated buttons or other controls, to take full advantage of them.

Connect to a Windows computer via USB

You can use a USB cable to connect your phone to a Windows computer and transfer music, pictures, and other files in both directions. This connection uses the MTP protocol, which is supported by most recent versions of Windows.

If you are using USB tethering, you must turn that off before you can use USB to transfer files between your tablet and computer.

When you connect your phone to the USB port on your computer, its USB storage is mounted as a drive and appears on your computer screen. You can now copy files back and forth as you would using any other external device.

When you're finished, simply disconnect the phone by unplugging the USB cable.

Related settings

Settings > Wireless & networks > More > Tethering & portable hotspot

Settings > Device > Storage > Menu > USB computer connection

Connect to a Macintosh computer via USB

You can use a USB cable to connect your phone to a computer running Mac OS X with a USB cable and transfer music, pictures, and other files in both directions.

This connection uses the MTP protocol, which is not supported by Mac OS X natively. Therefore, you first need to install the free Android File Transfer application on your Macintosh. It's available from www.android.com/filetransfer, along with instructions on how to install it.

After you install Android File Transfer, follow these steps:

1   If you are using Android File Transfer for the first time, double-click it to open it.

    After you start Android File Transfer once, it opens automatically whenever you connect your device to your computer.

2   Connect your device to your computer with a USB cable.

Android File Transfer starts, if it's not already running, and opens a window that displays the contents of your device, along with storage space details at the bottom of the window.

You work with this window much as if it were a Finder window: opening and closing folders, creating new folders, and dragging files to or from it and other Finder windows. Disconnect the USB cable when you're finished.

Related settings

Settings > Wireless & networks > More > Tethering & portable hotspot

Settings > Device > Storage > Menu > USB computer connection

Share your mobile data connection

You can share your phone's mobile data connection with a single computer via USB tethering or Bluetooth tethering. You can also share your data connection with up to 8 devices at once, by turning it into a portable Wi-Fi hotspot.

While your device is sharing its data connection, a Status icon appears at the top of the screen and a corresponding message appears in the notification list:

USB tethering or hotspot active

Bluetooth tethering active

Portable Wi-Fi hotspot active

Multiple tethering or hotspot connections active

The tethering & portable hotspot settings described below allow you to share your data connection. To view these settings:

1   From a Home screen or All Apps screen, touch the Settings icon .

2   Under Wireless & Networks, touch **More > Tethering & portable hotspot**.

Share your phone's data connection via USB

If your computer is running Windows 7, Mac OS X, or a recent distribution of some flavors of Linux (such as Ubuntu), you can follow these instructions without any special preparation.

If you're running a version of Windows that precedes Windows 7, or some other operating system, you may need to prepare your computer to establish a network connection via USB.

1   Connect your phone to your computer with a USB cable.

     A USB icon appears at the top of the screen, and the notification **Connected as a media device** or **Connected as a camera** appears briefly at the top of the screen. For the purposes of tethering, the type of connection doesn't matter.

2   Go to **Settings > Wireless & networks > More > Tethering & portable hotspot**.

3   Check **USB tethering**.

     Your computer is now sharing your device's data connection.

4   To stop sharing your data connection, uncheck USB tethering or disconnect the USB cable.

Share your phone's data connection via Bluetooth

If your computer can obtain an Internet connection via Bluetooth, you can configure your phone to share it's mobile data connection with your computer.

1 Pair your phone with your computer.
2 Configure your computer to obtain its network connection via Bluetooth.
   For more information, see your computer's documentation.
3 Go to **Settings > Wireless & networks > More > Tethering & portable hotspot**.
4 Check **Bluetooth tethering**.
   Your computer is now sharing your phone's data connection.
5 To stop sharing your data connection, uncheck **Bluetooth tethering**.

Share your phone's data connection as a portable Wi-Fi hotspot

1 Go to Se**ttings > Wireless & networks > More > Tethering & portable hotspot**.
2 Check **Portable Wi-Fi hotspot**.

After a moment, the phone starts broadcasting its Wi-Fi network name (SSID), so you can connect to it with up to 8 computers or other devices.

To stop sharing your data connection, uncheck **Portable Wi-Fi hotspot**.

Rename or secure your portable hotspot

You can change the name of your phone's Wi-Fi network name (SSID) and secure its Wi-Fi network when it's acting as a portable hotspot.

1 Go to **Settings > Wireless & networks > More > Tethering & portable hotspot**.

2 Make sure **Portable Wi-Fi hotspot** is checked.

3 Touch **Configure Wi-Fi hotspot**.

   The Configure Wi-Fi hotspot dialog opens.

4 Set your name and security options as follows:

   Change the Network SSID (name) that other computers see when scanning for Wi-Fi networks.

   Choose a security option. Choosing **WPA2 PSK** adds a password field to the Configure Wi-Fi hotspot dialog. If you enter a password, you will need to re-enter that password when you connect to the hotspot with a computer or other device. To remove security from your Wi-Fi network, choose **Open**.

5 Touch **Save**.

Related topic

Manage notifications

Connect to virtual private networks

Virtual private networks (VPNs) allow you to connect to the resources inside a secured local network, from outside that network. VPNs are commonly deployed by corporations, schools, and other institutions to let people access local network resources when not on campus, or when connected to a wireless network.

To configure VPN access, you must first obtain the details from your network administrator. Depending on your organization's solution, you may need to obtain a VPN app, either from your administrator or from Android Market.

The VPN settings screen allows you to add VPN networks and adjust their settings. To view this screen and perform the tasks described here:

1 From a Home or All Apps screen, touch the Settings icon .

2 Under Wireless & networks, touch **More > VPN**.

Add a VPN

1 From the VPN screen, touch **Add VPN network**.

2 In the form that appears, fill in the information provided by your network administrator

3 Touch **Save**.

The VPN is added to the list on the VPN screen.

Connect to a VPN

1 From the VPN screen, touch the name of the VPN.
2 In the dialog that opens, enter any requested credentials.
3 Touch **Connect**.

When you're connected to a VPN, a Status icon and notification are displayed continuously. To disconnect, touch the notification for the VPN connection.

Edit a VPN

1 From the VPN screen, touch & hold the name of the VPN.
2 In the dialog that opens, touch **Edit network**.
3 Edit the VPN settings you want.
4 Touch **Save**.

Delete a VPN

1 From the VPN screen, touch & hold the name of the VPN.

2 Touch & hold the VPN you want to delete.

3 In the dialog that opens, touch Delete network.

Related topic

Manage notifications

Work with certificates

Control airplane mode & other network settings

These settings are available under **Settings > Wireless & networks > More**. Follow the links for detailed instructions:

● **Airplane mode**. Check to turn off all the device's radios that transmit data.

● **VPN**. Touch to adjust settings that allow you to connect to websites and other resources within a secured local network from outside that network. See Connect to virtual private networks.

● **Tethering & portable hotspot**. Touch to adjust settings that allow you to share your device's network connection with a computer or with up to 8 other devices, via USB, Wi-FI, or Bluetooth. See Share your mobile data connection.

● **NFC**. Check to turn on Near Field Communication. This technology is used to communicate between devices that are a few centimeters away from each other. NFC must be turned on for sharing between devices to work correctly.

● **Android Beam**. Check to permit beaming content from one device to another when NFC is turned on. See Beam screen content.

● **Mobile networks**. Touch to adjust settings that control your device's connections with mobile data networks. See Connect to mobile networks.

Search by text & voice

Refine Google Search

Google Search is available from the top of any Home screen:

● **Speak search terms**: Touch the Microphone icon 🎤.

After you say what you're looking for, the Browser opens to a list of search results.

● **Type search terms**: Touch **Google**.

As you type, suggestions appear below the Search box.

The first few suggestions attempt to complete what you're typing:

● To search for a suggestion immediately, touch it.

● To add a suggestion to the search field, touch the arrow to its right. You can then keep on typing or choose further suggestions.

● To search for the contents of the search field, touch the Search button 🔍 near the lower right corner of the keyboard.

Manage Google Search privacy settings

1 On a Home screen, touch **Google**.

2 Touch Menu icon ▤ **> Search settings > Google Search**.

3 Adjust any of these settings:

Use Web History. Check to include suggestions based on previous searches from your computer or other devices.

Manage Web History. Opens Browser to the web search history settings associated with your Google Account.

Use My Location. Check to take account of your location in search results and other Google services.

Search tips & tricks

What you want	What to type or say	Examples
Sports information	[team's name]	San Francisco Giants
Pictures	Pictures of [topic] Images of [topic]	Pictures of San Francisco Images of cats
Convert measurements	[original measurement] in [new measurement]	30 degrees Celsius in Fahrenheit
Movie showtimes	Movie Movie [location] [Move name]	Movie Movie Chicago The Horse"s Mouth
Word definition	Define [word]	Define campanile
Weather forecast	Weather Weather [location]	Weather Weather Detroit
Identify an area code	Area code [###]	Area code 215
Identify zip code	Zip code [#####]	Zip code 46202

Time	Time Time [location]	Time Time in London
Flight information	[Airline] [flight number]	American Airlines flight 390
Translation	Translate to [language], [phrase]	Translate to Spanish, Where is the Palace Hotel?
Calculator	[A math phrase]	75 divided by 6
Food	[Type of food] [Type of food] in [location]	Mexican food Mexican food in Urbana, Illinois

Use Voice Actions

In addition to searching the web by speaking, you can use Voice Actions to call your contacts, get directions, send messages, and perform a number of other common tasks.

1 On a Home screen or when the keyboard for the Browser's Omnibox is open, touch the Microphone icon 🎤 at the upper right.

A dialog with a microphone icon opens.

2 Speak the Voice Action you want to use.

When you're finished speaking, Voice Search analyzes your speech and initiates the action.

If Voice Search didn't understand what you said, it presents a list of similar-sounding search terms and actions, which you can touch to choose.

Some Voice Actions, such as "send email" and "note to self", open a panel that prompts you to complete the action by speaking or typing more information.

● Touch any text already entered in the panel to add or edit the text by typing.

To speak text instead of typing, first touch the Microphone key near the bottom left of the onscreen keyboard.

● Touch underlined words or phrases or drag across multiple words to view a list of alternate transcriptions, or to edit by speaking or typing.

When confident that the transcription is accurate, Voice Search displays transcribed words as regular text. Words or phrases for which it has provided alternate transcriptions are underlined.

● Touch a button at the bottom of the window to add any optional fields (you can also speak the name and content of any of these fields in your original voice action).

● When you're done, touch the button appropriate to completing the action, such as **Send**.

Related topic

Voice Action commands

Voice Action commands

Voice Actions let you text your friends, get directions, send email, and perform a number of other common tasks by speaking to your phone.

For example, you can say:

- "Set alarm for 8:30 a.m."
- "Send email to Marcus Foster. Subject: Coming tonight? Message: Hope to see you later."
- "Navigate to Mike's Bikes in Palo Alto"

If Voice Search doesn't understand you, it lists a set of possible meanings. Just touch the one you want.

You can search and control your phone with the following Voice Action commands.

Say	Followed by	Examples
"Call"	Contact name & optionally, "home", "mobile", or "work"	"Call Mike LeBeau at home."
"Map of"	Address, name, business name, type of business, or other location	"Map of Golden Gate Park, San Francisco"

"Directions" or **"Navigate to"**	Address, name, business name, type of business, or other destination	"Directions to 1299 Colusa Avenue, Berkeley, California" or "Navigate to Union Square, San Francisco."
Contact name		"Mike LeBeau" (opens Mike's contact card
"Call"	Digits of a phone number	"Call 650 555 1234"
"Call"	Business name	"Call Native Here Nursery"
"Go to"	Search string or URL	"Go to Google.com"
"Send "SMS" or "Send text"	"To" & contact names, "Message" & Message text (speak punctuation)	"Send text to Hugh Briss, message, I can't wait to show you my new shoes, period"

"Send email"	One or more of: "To" & contact names, "Cc" & contact names, "Bcc" & contact names, "Subject" & subject text "Message" & message text (speak punctuation)	"Send email to Hugh Briss, subject, new shoes, message, I can't wait to show you my new shoes, period."
"Note to self"	Message text	"Note to self: remember the milk"
"Set alarm"	"Time" or "for" & time, such as "10:45 a.m." or "20 minutes from now,"Label" & name of alarm	"Set alarm for 7:45 p.m., label, switch the laundry"
"Listen to"	Words to search YouTube for, such as the name of a song, artist, or album	"Listen to: smells like teen spirit"

Manage accounts

Add or remove accounts

You can use multiple Google Accounts and Microsoft Exchange ActiveSync accounts on your device. You may also be able to add other kinds of accounts, depending on your apps. Some you can add in the Accounts & Sync screen, as described here. Others you add using an app that works with those kinds of accounts. For example, you can add IMAP and POP3 email accounts with the Email app.

To view the Accounts & sync settings screen described here:

1 From a Home or All Apps screen, touch the Settings icon .
2 Under Personal, touch **Accounts & sync**.

Add an account

To add some accounts, you may need to obtain details from system administrator about the service to which the account connects. For example, you may need to know the account's domain or server address.

1 Go to **Settings > Personal > Accounts & sync**.
2 Touch **Add account**.
3 Touch the kind of account to add.
4 Follow the onscreen steps to enter information about the account.

   Most accounts require a username and password, but the details depend on the kind of account and the configuration of the service you're connecting to.

Depending on the kind of account, you may be asked to configure what kinds of data you want to sync, name the account, and other details.

When you're finished, the account is added to the list in Accounts & sync. Depending how you configured the account, email, contacts, and other information start syncing to your device.

Remove an account

You can remove an account to delete it and all information associated with it from your device, including email, contacts, settings, and so on.

1. Go to **Settings > Personal > Accounts & sync**.
2. Touch the account to delete.
3. Touch Menu icon ⋮ > **Remove account**.

Related topics

Configure account sync options
Why use a Google Account?

Configure account sync options

You can configure synchronization options for any of your apps. You can also configure what kinds of data you synchronize for each account. Some apps, such as Gmail and Calendar, have separate synchronization settings that provide more fine-grained control. In such cases, the settings you select at the account level are still valid.

For some accounts, syncing is two-directional; changes that you make to the information on your device are made to the copy of that information on the web. Your Google Account works this way. Other accounts support only one-way sync: the information on your mobile device is read-only.

To view the Accounts & sync settings screen described here:

1   From a Home or All Apps screen, touch the Settings icon ![icon].
2   Under Personal, touch **Accounts & sync**.

Some apps also have their own settings related to syncing. For example, to control message syncing in the Gmail app, touch Menu icon ![icon] **> Label settings > Sync messages**.

Configure general sync settings

1   Go to **Settings > Personal > Accounts & sync**.

⟳ indicates that some or all of an account's information is configured to sync automatically.

⟳ indicates that none of an account's information is configured to sync automatically.

2   Check or uncheck Menu icon ⁝ > **Auto-sync app data** to control whether changes you make to information on your device or on the web are automatically synced with each other.

If you turn off Auto-sync, you need to sync manually to collect messages, email, and other recent information, and won't receive notifications when updates occur.

For example, when this option is checked, changes that you make in your People app are automatically made to your Google contacts on the web.

If this option is not checked, you may be able to use an application's tools to sync data manually. You can also sync manually to collect messages, email, and other recent information. Leaving Auto-sync off can help extend your battery life, but will prevent your from receiving notifications when updates occur.

Sync information manually

1   Go to **Settings > Personal > Accounts & sync**.

2   Touch the account whose data you want to sync.

3   Touch Menu icon ⁝ > **Sync now**.

Change an account's sync settings

1 Go to **Settings > Personal > Accounts & sync**.

2 Touch the account whose sync settings you want to change.

The Sync Settings screen opens, displaying a list of the kinds of information the account can sync.

3 Check or uncheck items as needed.

Unchecking an option does not remove the information from your device; it simply stops it from being kept in sync with the version on the web.

Related topic

Add or remove accounts

Why use a Google Account?

Change backup & reset options

You can back up settings and other data associated with one or more of your Google Accounts. If you need to replace or factory reset your device, you can restore your data for any accounts that were previously backed up.

To view these settings:

1 From a Home or All Apps screen, touch the Settings icon ![settings icon].

2 Under Personal, touch **Backup & reset**.

These options are available:

● **Back up my data**. If you check this option, a wide variety of your personal data is backed up automatically, including your Wi-Fi passwords, Browser bookmarks, a list of the apps you've installed from the Market app, the words you've added to the dictionary used by the onscreen keyboard, and most of your customized settings. Some third-party apps may also take advantage of this feature, so you can restore your data if you reinstall an app.

If you uncheck this option, your data stops getting backed up, and any existing backups are deleted from Google servers.

● **Backup account**. Displays the Google Accounts whose information gets backed up. You must sign in with one or more of these accounts on a new or reset device to retrieve the associated information.

To add a new account, touch **Backup account > Add account**.

- **Automatic restore**. Check this option to restore settings and other data when you reinstall an app. This feature requires that you are backing up your data with your Google Account and that the app is using the backup service.

- **Factory data reset**. Touch this option, then Reset phone to erase all your personal data from internal storage, including information about your Google Account, any other accounts, your system and app settings, any downloaded applications, and your music, photos, videos, and other files.

  After resetting your phone, you'll need to re-enter the same information requested when you first set up your phone. If you've been backing up your data to a Google account, an option during the setup process allows you to restore it.

Some third-party apps also make use of the backup service, so if you reinstall one, its settings and data are restored.

Related topic

Why use a Google Account?

Secure your phone

Set screen lock

Depending how you use your phone, you may want to set some form of automatic screen lock to prevent unauthorized access. If a screen lock has been set, the screen locks when your phone's display goes to sleep.

To adjust your phone's lock settings:

1 From a Home or All Apps screen, touch the Settings icon .

2 Touch **Personal > Security > Screen lock**.

3 Touch the type of lock you want and follow the onscreen instructions.

If you have previously set a lock, you must enter the pattern, PIN, or password to unlock the lock settings.

You can choose among these lock options, listed in approximate order of strength:

- **Slide** provides no protection, but lets you get to the Home screen quickly, or open Camera and start taking pictures immediately.
- **Face Unlock** lets you unlock your phone by looking at it. This is the least secure lock option.
- **Pattern** lets you draw a simple pattern with your finger to unlock the phone. This is slightly more secure than Face Unlock.
- **PIN** requires four or more numbers. Longer PINs tend to be more secure.
- **Password** requires four or more letters or numbers. This is the most secure option, as long as you create a strong password.

Important For best security, specify a password that is
- A least 8 characters long.
- Contains a mixture of numbers, letters, and special symbols
- Doesn't contain any recognizable words or phrases.

Related settings

Settings > Device > Display > Sleep

Settings > Personal > Security > Make pattern visible

Related topics

Use the lock screen

Encrypt your phone

Encrypt your phone

You can encrypt all the data on your phone: Google Accounts, application data, music and other media, downloaded information, and so on. If you do, you must enter a numeric PIN or password each time you turn on your phone. Note that this is the same PIN or password that you use to unlock your phone without encryption, and cannot be set independently.

Warning! Encryption is irreversible. The only way to revert to an unencrypted phone is to perform a factory data reset, which erases all your data.

Encryption provides additional protection in case your phone is stolen, and may be required or recommended in some organizations. Consult your system administrator before turning it on. In many cases the PIN or password you set for encryption is controlled by the system administrator.

Before turning on encryption, prepare as follows:

1. Set a lock screen PIN or password.
2. Charge the battery.
3. Plug in your phone.
4. Schedule an hour or more for the encryption process: you must not interrupt it or you will lose some or all of your data.

When you're ready to turn on encryption:

1 From a Home or All Apps screen, touch the Settings icon ![Settings icon].

2 Touch **Personal > Security > Encryption > Encrypt phone**.

3 Read the information about encryption carefully.

The **Encrypt phone** button is dimmed if your battery's not charged or your phone's not plugged in. If you change your mind about encrypting your phone, touch the Back button.

Warning! If you interrupt the encryption process, you will lose data.

4 Touch **Encrypt phone**.

5 Enter your lock screen PIN or password and touch **Continue**.

6 Touch **Encrypt phone** again.

The encryption process starts and displays its progress. Encryption can take an hour or more, during which time your phone may restart several times.

When encryption is complete, you're prompted to enter your PIN or password.

Subsequently, you must enter your PIN or password each time you power on your phone, to decrypt it.

Work with certificates

You can use digital certificates to identify your device for a variety of purposes, including VPN or Wi-Fi network access as well as authentication to servers by apps such as Email or Browser. To use a certificate to identify your device, you must obtain it with help from your system administrator, and install it in your device's trusted credential storage .

Android supports DER-encoded X.509 certificates, saved in files with a .crt or .cer file extension. If your certificate file has a .der or other extension, you must change it to .crt or .cer or you won't be able to install it.

Android also supports X.509 certificates saved in PKCS#12 key store files with a .p12 or .pfx extension. If your key store has some other extension, you much change it to .p12 or .pfx or you won't be able to install it. When you install a certificate from a PKCS#12 key store, Android also installs any accompanying private key or certificate authority certificates.

Install client and CA certificates

To install a certificate from your phone's internal storage:

1 Copy the certificate or key store from your computer to the root of your device's internal storage (that is, not in a folder).

2 From a Home or All Apps screen, touch the Settings icon ![settings icon].

3 Go to **Personal > Security > Credential storage > Install from storage**.

4 Touch the filename of the certificate or keystore to install. Only certificates that you haven't already installed are displayed.

5 If prompted, enter the key store password and touch **OK**.

6 Enter a name for the certificate and touch **OK**.

Typically, a CA certificate included with a client certificate is installed at the same time. You can also install separate CA certificates using the same steps.

If you have not already set a pattern, PIN, or password for your device, you're prompted to set one up. The type of lock that's acceptable may be predetermined by your system administrator.

You can now use the certificate that you installed when connecting to a secure network or for client authentication with Email, Browser, and third-party apps. After a certificate is installed successfully, the copy in storage is deleted.

Important Apps such as Email and Browser that support certificates allow you to install certificates directly from within the app. For details, see the Help or other instructions that come with each app.

Work with CA certificates

If a certificate authority (CA) certificate gets compromised, or for some other reason your organization doesn't want to trust it, you can disable or remove it. To do so, follow these steps:

1   From a Home or All Apps screen, touch the Settings icon ![settings icon].

2   Go to **Personal > Security > Credential storage >Trusted credentials**. The trusted credentials screen has two tabs:

    System displays certificate authority (CA) certificates that are permanently installed in the ROM of your phone.

    User displays any CA certificates that you have installed yourself, for example in the process of installing a client certificate.

3   To examine the details of CA certificate, touch its name.

    A scrolling screen displays the details.

4   To remove or disable a CA certificate, scroll down to the bottom of the details screen and touch either **Disable** for system certificates or **Remove** for user certificates.

    When you disable a system CA certificate, the button at the bottom of its details screen changes to **Enable**, so you can enable the certificate again if necessary. When you remove a user-installed CA certificate, it is gone permanently and must be re-installed if you want it back.

5   In the confirmation dialog that appears, click **OK**.